



BIOLOGY NMDCAT EARLIER PREP

PMC UNIT WISE TEST Unit-3

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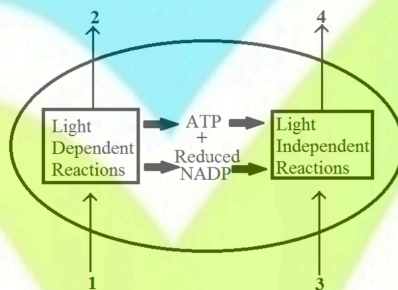
TOPICS:

- ✓ Bioenergetics
- ✓ Acellular Life/Variety of life (Viruses)

- Q.1** It is the quantitative study of energy relationship and energy conversions in biological systems:
- | | |
|---------------------|------------------|
| A. Thermodynamics | B. Biochemistry |
| C. Thermo-chemistry | D. Bioenergetics |
- Q.2** Actual source of oxygen produced during photosynthesis is:
- | | |
|-------------------|----------|
| A. Carbon dioxide | B. Water |
| C. Glucose | D. G3P |
- Q.3** The incorrect statement for photosynthesis is:
- | | |
|------------------------------|-------------------|
| A. It occurs during day time | B. It uses water |
| C. It requires chlorophyll | D. It uses Oxygen |
- Q.4** All of the following are characteristics of head of chlorophyll except:
- | | |
|-----------------------|--------------------|
| A. Flat and square | B. Light absorbing |
| C. Contains magnesium | D. Hydrophobic |
- Q.5** A graph plotted showing absorption of different wavelengths of light by a pigment is called:
- | | |
|----------------------------|------------------------|
| A. Photosynthetic spectrum | B. Absorption spectrum |
| C. Pigment spectrum | D. Action spectrum |
- Q.6** All of the following functions are performed by carotenoids except:
- | | |
|--|-------------------------------|
| A. Broaden the absorption spectrum | B. Protection of human eyes |
| C. Protection of chlorophyll molecules | D. Formation of ATP and NADPH |
- Q.7** The main difference between PS-I and PS-II lies in their:
- | | |
|--------------------|--------------------|
| A. Antenna complex | B. Chlorophyll 'a' |
| C. Reaction center | D. Chlorophyll 'b' |
- Q.8** It is not an accessory pigment of photosynthesis:
- | | |
|--------------------|--------------------|
| A. Carotenes | B. Chlorophyll 'b' |
| C. Chlorophyll 'a' | D. Xanthophylls |
- Q.9** _____ is a kind of chemical linkage between catabolism and anabolism.
- | | |
|----------------------|--------|
| A. NADH | B. G3P |
| C. FADH ₂ | D. ATP |
- Q.10** In light independent stage of photosynthesis, CO₂ combines with its acceptor molecule, called _____ and form an unstable 6-carbon intermediate.
- | | |
|------------------------------|-------------------------------|
| A. Ribulose 1,5-bisphosphate | B. NADPH |
| C. Hexose sugar | D. Glyceraldehyde 3-phosphate |
- Q.11** All of the following contain a five carbon sugar except:
- | | |
|---------------------|------------|
| A. RuBP | B. FADH |
| C. NAD ⁺ | D. Rubisco |
- Q.12** The part of chlorophyll molecule which absorbs light is:
- | | |
|-------------------|---------------------------|
| A. Phytol | B. Long hydrocarbon chain |
| C. Porphyrin ring | D. Hydrophobic tail |
- Q.13** All of the following are produced during light reactions of photosynthesis except:
- | | |
|-------------------|------------|
| A. ATP | B. Glucose |
| C. O ₂ | D. NADPH |



- Q.14** Photosystem II is concerned with:
A. Photolysis of water
B. Formation of G3P
C. Reduction of CO_2
D. Reduction of NADP^+
- Q.15** The product of cyclic electron flow is:
A. O_2
B. NADPH
C. ATP
D. FADH_2
- Q.16** The correct sequence of flow of electrons during light reaction of photosynthesis:
A. Cytochrome complex \rightarrow Plastoquinone \rightarrow Plastocyanin
B. Plastoquinone \rightarrow Cytochrome complex \rightarrow Plastocyanin
C. Cytochrome complex \rightarrow Plastocyanin \rightarrow Plastoquinone
D. Plastoquinone \rightarrow Plastocyanin \rightarrow Cytochrome complex
- Q.17** It acts as reducing agent during dark reactions of photosynthesis:
A. ATP
B. H_2O
C. NADPH
D. G3P
- Q.18** The diagram shows the movement of substances into and out of a chloroplast:



What do labels 1 to 4 represent?

	1	2	3	4
A.	CO_2	ATP	H_2O	Starch
B.	CO_2	H_2O	Sugars	O_2
C.	H_2O	O_2	CO_2	Sugars
D.	Sugars	H_2O	ATP	O_2

- Q.19** _____ is the site of light independent reaction.
A. Thylakoid space
B. Grana
C. Thylakoid membrane
D. Stroma
- Q.20** Type of respiration which involves step by step breakdown of carbon chain molecules in the cell is called:
A. External respiration
B. Pulmonary respiration
C. Cellular respiration
D. Organismic respiration
- Q.21** The most common respiratory substrate used as a source of energy by the cells is:
A. Glucose
B. Fructose
C. Sucrose
D. Insulin
- Q.22** What is the net production of ATP molecules during anaerobic respiration?
A. 0
B. 4
C. 2
D. 8
- Q.23** What is the equation for aerobic respiration?
A. Carbon dioxide + Water \rightarrow Glucose + Oxygen + Energy
B. Oxygen + Glucose \rightarrow Carbon dioxide + Alcohol + Energy
C. Carbon dioxide + Water \rightarrow Alcohol + Oxygen + Energy
D. Glucose + Oxygen \rightarrow Water + Carbon dioxide + Energy
- Q.24** Which stage of cellular respiration will not be affected by absence or presence of oxygen?
A. Glycolysis
B. Krebs cycle
C. Link reaction
D. Oxidative phosphorylation
- Q.25** It is true about preparatory phase of glycolysis:
A. ATP are consumed
B. NADH are consumed
C. ATP are produced
D. NAD^+ are produced



- Q.26 It splits into trioses during glycolysis:
- A. Fructose 4, 6-bisphosphate
 - B. Fructose 1, 3-bisphosphate
 - C. Glucose 6-phosphate
 - D. Fructose 1, 6-bisphosphate
- Q.27 Which of the following is **not** related to the pyruvic acid oxidation?
- A. Decarboxylation
 - B. Addition of Co-A
 - C. Oxidation of NAD^+
 - D. Oxidation of pyruvate



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- Q.28 During glycolysis, a water molecule is released when:**
A. BPG is converted into 3PG
B. 2PG is converted into PEP
C. 3PG is converted into 2 PG
D. PEP is formed pyruvate
- Q.29 In which step of Krebs cycle, decarboxylation does occur?**
A. Citrate to isocitrate formation
B. α -ketoglutarate to isocitrate formation
C. Fumarate to malate formation
D. Isocitrate to α -ketoglutarate formation
- Q.30 During Krebs cycle, conversion of succinate into fumarate give rise to:**
A. NADH
B. FADH_2
C. NADPH
D. ATP
- Q.31 Net production of ATP molecules in a prokaryotic cell when a glucose molecule is completely oxidized is:**
A. 34 ATP
B. 38 ATP
C. 36 ATP
D. 40 ATP
- Q.32 The chemical formula of lactic acid is:**
A. $\text{C}_3\text{H}_4\text{O}_3$
B. $\text{C}_2\text{H}_5\text{OH}$
C. $\text{C}_3\text{H}_6\text{O}_3$
D. $\text{C}_4\text{H}_8\text{O}_4$
- Q.33 During chemiosmosis, ATPs are formed when H^+ move:**
A. Actively from cytoplasmic matrix to inter membranous space
B. Actively from inter membranous space to cytoplasmic matrix
C. Passively from inter membranous space to mitochondrial matrix
D. Passively from mitochondrial matrix to inter membranous space
- Q.34 The water splitting step of photosynthesis is referred as:**
A. Phosphorylation
B. Plasmolysis
C. Photorespiration
D. Photolysis
- Q.35 Carriers of the respiratory chain are located on:**
A. Matrix of mitochondria
B. Inner membrane of mitochondria
C. Outer membrane of mitochondria
D. Cytoplasmic matrix
- Q.36 Viruses have:**
A. Nucleic acid genome enclosed in a protein coat
B. Proteinaceous genome
C. Prokaryotic type ribosomes
D. Both DNA and RNA
- Q.37 Which statement is not true for viruses?**
A. Extremely small infectious agents
B. Can multiply only in living cells
C. Can grow in artificial medium
D. Can be seen under electron microscope
- Q.38 The site where the protein coat of a virus is synthesized is:**
A. Plasma membrane of the host
B. RNA of the virus
C. Mitochondria of the host
D. Ribosome of the host
- Q.39 Prophage is actually:**
A. DNA of Virulent phage
B. DNA of the bacterium
C. DNA of lytic phage
D. DNA of non-virulent phage
- Q.40 T-phages generally parasitizes:**
A. *S. cerevisiae*
B. *Pseudomonas*
C. *E. coli*
D. Lambda phage
- Q.41 Chemically, the viral envelope is composed of:**
A. Lipopolysaccharide
B. Lipoprotein
C. Peptidoglycan
D. Chitin
- Q.42 The first step in the replication of bacteriophage is its attachment to the host cell at receptor site located on:**
A. Cell membrane of the bacteria
B. Cell wall of the bacteria
C. Cytoplasmic proteins of bacteria
D. Flagella of bacteria
- Q.43 What are the sequence of steps in which a bacteriophage attacks bacteria and injects its DNA?**
A. Landing \rightarrow Tail contraction \rightarrow Penetration \rightarrow DNA injection
B. Penetration \rightarrow Landing \rightarrow Tail contraction \rightarrow DNA injection
C. Tail contraction \rightarrow Landing \rightarrow DNA injection \rightarrow Penetration
D. Landing \rightarrow Penetration \rightarrow Tail contraction \rightarrow DNA injection



- Q.44 Which of these is incorrect about HIV?**
A. Envelope is lipoprotein in nature
B. Cone shaped capsid
C. Contains one molecule of RNA
D. Two molecules of reverse transcriptase
- Q.45 Generally, viruses are resistant to all of the following except:**
A. Interferon
B. Penicillin
C. Streptomycin
D) Lovastatin
- Q.46 The enzyme which is important to initiate the life cycle of bacteriophages and perform catalytic activity in extracellular environment is:**
A. Reverse transcriptase
B. RNA polymerase
C. Lysozyme
D. DNA polymerase
- Q.47 The life cycle of viruses in which viral DNA remain attached with host genome in dormant form is called as:**
A. Lysogenic Cycle
B. Infectious Cycle
C. Lytic Cycle
D. Master-slave cycle
- Q.48 Uncoating of HIV virion occurs:**
A. Outside the host cell
B. In cytoplasm of the host cell
C. In nucleus of host cell
D. In nucleolus of the host cell
- Q.49 Hepatitis 'A' is also called as:**
A. Serum hepatitis
B. Infusion hepatitis
C. Infectious hepatitis
D. Delta hepatitis
- Q.50 Mode of reproduction in viruses is:**
A. Conjugation
B. Binary fission
C. Replication
D. Transformation

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bio T-3 Key

A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D				
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